

General Information on Recommended Fertilizer Rates

The annual application rates presented in the accompanying table are provided **as a guideline**. These rates must be **adjusted according to the specific conditions of each production system**. The total amount should be **split into multiple applications** and applied at the **appropriate physiological stages** of the crop.

Fertilizer rates and timing should be adapted based on several factors, including :

- Soil type and its physical, chemical (e.g., drainage, pH, nutrient levels) and biological properties
- The cultivar being grown
- Nutrient contributions from previous crops (e.g., green manures)
- Residual effects from past fertilizer applications
- Additional inputs such as compost or manure
- Applicable **provincial regulations**

It is recommended to conduct **soil analysis every 3 to 5 years** to ensure nutrient balance and avoid excess accumulation of certain elements.

To develop a fertilization plan tailored to your needs, consult an **agronomist or agricultural professional**. They can help you integrate **Acti-Sol 5-3-2 fertilizer** in a way that supports long-term soil health.

You may also refer to the following fertilization and crop production guides :

- **CRAAQ – Quebec** : <https://www.craaq.qc.ca>
 - **Ontario Ministry of Agriculture, Food and Rural Affairs** : <https://www.ontario.ca/fr/page/agriculture-et-alimentation>
 - **Soil Fertility Handbook (OMAFRA)** : <https://files.ontario.ca/omafra-soil-fertility-handbook-fr-2022-10-13.pdf>
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Factors Affecting Granule Breakdown Speed

1. Granule Size :

- **Fine (< 2.5 mm)** : breaks down in less than one week
- **Regular (≈ 3 mm x 6 mm)** : breaks down in less than two weeks

2. Method of Application :

- **Incorporation into the top layer of soil** (e.g., during soil prep) :
Promotes faster granule breakdown and greater efficiency by improving soil contact, accelerating moisture absorption, and enhancing access to microorganisms.
- **Band application near the roots** :
Also improves fertilizer efficiency by placing nutrients closer to the root zone.
- **Broadcast application** :
Least efficient method due to reduced soil contact, increased risk of volatilization, and greater distance from plant roots.

3. Irrigation System :

- **Sprinkler booms or overhead systems** that provide **uniform soil moisture** help facilitate granule breakdown.
- **Drip irrigation or sprinkler stakes** often result in **non-uniform soil wetting**, which can limit granule moisture absorption and slow down degradation.
In these conditions, nutrients may accumulate on the surface, reducing plant availability and increasing the risk of **soil salinity**.

Field fertilization with acti-PRO FRASS 4-2,5-2,8

Nutrient contribution of 4-2,5-2,8 (kg)

Quantity of 5-3-2 (kg)	N	P ₂ O ₅	K ₂ O
1	0,04	0,025	0,028
50	2	1,25	1,4
100	4	2,5	2,8
1000	40	25	28

Application rates do not account for efficiency, which may vary between 70–100% depending on application methods and production systems.

Vegetables Crops

Asparagus - establishment
 Asparagus - maintenance year 2+
 Sweet corn
 Potato
 Demanding vegetables (solanaceae, brassicaceae, potato)
 Moderately demanding vegetables (cucurbits, alliums, beet, radish, spinach)
 Low-demand vegetables (carrot, parsnip, lettuce) and herbs
 Legumes (bean, pea)

Amount of acti-PRO 4-2,5-2,8 to apply (total/ha) in mineral soil per season to meet nitrogen needs

Quantity of acti PRO FRASS kg / ha	Quantity of acti PRO FRASS kg / acre	Quantity of acti PRO FRASS kg/m ²
2813-3750	1138-1518	0,28-0,37
1874-2500	759-1012	0,18-0,25
1781-3500	721-1416	0,17-0,35
2344-4375	949-1771	0,23-0,43
2625-3500	1062-1416	0,26-0,35
2156-2875	873-1163	0,21-0,28
1500-2000	607-809	0,15-0,20
375-1500	152-607	0,03-0,15

Fruits crops

Blueberry
 Cranberries-maintenance
 Haskap
 Strawberry-Planting
 Rapsberry-Planting
 Rapsberry-Maintenance
 Apple
 Elderberry
 Vines
 Soil preparation for planting berries

Amount of acti-PRO 4-2,5-2,8 to apply (total/ha) in mineral soil per season to meet nitrogen needs

Quantity of acti PRO FRASS kg / ha	Quantity of acti PRO FRASS kg / acre	Quantity of acti PRO FRASS kg/m ²
565-875	266-354	0,05-0,08
375-1625	152-658	0,03-0,16
563-1250	228-506	0,05-0,12
2344-3125	949-1265	0,23-0,31
844-1125	341-455	0,08-0,11
1031-1375	417-556	0,10-0,13
565-875	266-354	0,05-0,08
1500-2000	607-809	0,15-0,20
0-1250	0-506	0-0,12
750-1250	304-506	0,07-0,12

Field crops

Amount of acti-PRO 4-2,5-2,8 to apply (total/ha) in mineral soil per season to meet nitrogen needs

	Quantity of acti PRO FRASS kg / ha	Quantity of acti PRO FRASS kg / acre	Quantity of acti PRO FRASS kg/m ²
Oats	750-1500	304-668	0,07-0,15
Wheat	1688-3000	683-1214	0,16-0,3
Barley	300-2000	121-809	0,03-0,2
Soybean	0-750	0-304	0-0,7
Grassland & Pasture-establishment	938-2750	379-1113	0,09-0,2
Grassland & Pasture≥40% + legumes-maintenance	0-1875	0-759	0-0,18
Grassland & Pasture≤40% + legumes-maintenance	1406-4000	569-1619	0,14-0,4

Nurseries

Amount of acti-PRO 4-2,5-2,8 to apply (total/ha) in mineral soil per season to meet nitrogen needs

	Quantity of acti PRO FRASS kg / ha	Quantity of acti PRO FRASS kg / acre	Quantity of acti PRO FRASS kg/m ²
Deciduous trees and shrubs - planting	656-875	266-354	0,06-0,08
Deciduous trees and shrubs - maintenance	1688-2625	683-1062	0,16-0,26
Evergreen trees and shrubs and Ericaceae - planting	304-750	123-304	0,03-0,07
Evergreen trees and shrubs and ericaceous plants - maintenance	759-1875	307-759	0,07-0,18
Conifers- planting	354-875	143-354	0,03-0,08
Conifers-maintenance	911-2250	368-911	0,09-0,22

Important Notice: The information provided in the grower section is for reference purposes only. It is not a substitute for a personalized fertilization plan. Acti-Sol accepts no responsibility for improper use or incorrect product dosage. It is strongly recommended to consult an agronomist or a qualified professional to adapt the recommendations to your specific situation.

*Based on the following fertilization grids and production guides

1. Centre de référence en agriculture et agroalimentaire du Québec (2015). Guide de référence en fertilisation. 2e édition actualisée. 479p.
2. Centre de référence en agriculture et agroalimentaire du Québec (2023)L'implantation d'un pommier. 2e édition. 26 p.
3. Ministère de l'Agriculture, de l'Alimentation et des Affaires rurales – Ontario : <https://www.ontario.ca/fr/page/agriculture-et-alimentation>
4. Manuel de la fertilité du sol (OMAFRA) : <https://files.ontario.ca/omafra-soil-fertility-handbook-fr-2022-10-13.pdf>